"Imaging the Iliad": The digitization of three Homer manuscripts; the 10th.c Marcianus Graecus Z. 454 the Venetus A, the 11th.c Marcianus Graecus Z. 453 the Venetus B, and the 12th/13thc Marcianus Graecus Z. 458 from the collection of the Biblioteca Nazionale Marciana, Venice

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INTRODUCTION

The project to carry out the in situ digitisation the Venetus A and its related manuscripts was both challenging and demanding. The world heritage status of these iconic manuscripts required that the maximum level of care and protection was planed for and taken throughout the digitisation project. To mitigate any risk to the manuscripts, to set a policy of care for the manuscript during the imaging and to capture the images to the required standards for this unique project the Centre for Hellenic Studies established a Conservation and Imaging Working Party, consisting of a group of international experts in conservation, digital imaging and visualization. The working party was assembled over a two-year period from the National Archive and Records Administration, America, the British Library, Gaze University, Austria the Natural History Museum, London and the University of Kentucky. The role of the working party was to make recommendations with consultation and agreement from The Biblioteca Nazionale Marciana on the methodology required for the condition reports on the manuscripts, the care, safety and security of the manuscripts during the digitisation, the monitoring of the physical condition of the manuscripts throughout the entire imaging process, the specifications for the imaging equipment and the archiving of the images. These were all key elements in the planning of the project not just for the protection and care of the manuscripts but were vital constituents to the successful outcome of the project.

OBJECTIVES

The guiding principles for the digitization were that the imaging of the manuscripts was carried out at the highest achievable resolution within the scope of the projects resources. That the digitization of the manuscripts should be a once only process and all the elements of the manuscript imaged including the bookbinding, the later text additions and paintings. It was important to capture not just the text of the Iliad and the fine minuscule scholia but also all the codicological information on the manuscript folios, the editorial symbols, the pricking and ruling marks made to align the texts and the surface characteristics of the parchment. These details are relevant to the scholarly understanding of the manuscripts structure and its making and can be clearly seen the images available to study in high resolution in the web edition.

Two further issues with the imaging for the Venetus A and B manuscripts needed consideration by the whole project team. This was the requirement the CHS scholars identified for the mu1ti spectral imaging of the faded and partly erased texts in the A and B manuscripts and the necessity to record and over come virtually the three dimensional nature of the Venetus A manuscript. Over time some passages of the text in the A and B manuscripts have suffered wear and loss and there are finely written and areas of faded scholia that required digital enhancement. In order to rediscover the worn and lost texts and to improve the reading of the scholia high-resolution images were taken under a controlled Ultra Violet light source. By applying a 'virtual flatting' process in affect a virtual conservation of the distorted folios was undertaken this enabled a virtual realignment of the distorted lines of text. This process was carried out with equipment and software developed at the University of Kentucky.

CONCLUSION

The development of a high-resolution robotic 3D scanning arm added one further element to the imaging project. The device gave us the opportunity to recreate with great precision the Venetus A in three dimensions with each folio being able to be read in high resolution and each page can be virtually turned by the reader giving the scholars, students and the general audience the opportunity to become fully immersed in this magnificent manuscript. These considerations informed our choices for camera system, capture resolution, lens, and lighting options, the required depth of field, file format, archiving of the captured images, metadata, environmental monitoring system and the type of book cradle required to safely protect and fully support the manuscripts.